CALIFORNIA STATE BOARD OF HEALTH

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REGULAR MEETINGS.

The meetings of the California State Board of Health are held regularly the first Saturday of each month, but the quarterly meetings required by law to be held at the Capitol of the State are ordinarily designated as January, April, July, and October.

By courtesy of the University of California the Food and Drug Laboratory and the Hygienic Laboratory are located in University buildings at Berkeley, California.

Address all communications to the

SECRETARY, Sacramento, California.

SEPTEMBER BULLETIN.

THE PRESENT STATUS OF BUBONIC PLAGUE SUPPRESSION IN CALIFORNIA.

By **William F. Snow**, Secretary California State Board of Health.

From time to time the State Board of Health has published statements relative to the progress of plague suppressive measures in the infected counties of the State. During the last fiscal year (July 1, 1912,–June 30, 1913) this work has been especially encouraging and gives promise of ultimately eradicating the disease. The following extract from information furnished the Board by the United States Public Health Service* is most significant:

> "In 1912, to July 1, there were shot on the infected and adjoining territory, 16,957 squirrels; of these 506 were infected, and so far as determined about fifty per cent of these had the disease in its septicæmic form."
>
> "In 1913, to July 1, there were shot on the same territory with more hunters in the field, under conditions otherwise as nearly parallel as possible, only 10,369 squirrels, 279 of which were infected, but only 3.6 per cent had the disease in the septicæmic form. There was, therefore, an apparent reduction in squirrels of 37.7 per cent, a reduction in per centage of infected squirrels of 10 per cent, and a reduction in septicæmia of 92.8 per cent."

This indicates that real progress is being made in combatting plague among the squirrels. Not only do the figures show a substantial reduction in the actual number of squirrels, but the prevalence of plague among them is less, and the number of squirrels having the disease in its highly communicable form, *i. e.,* plague septicæmia, is very markedly reduced. The importance of these findings can not be overrated. Plague has been driven out of the cities, and through the co-operation of the Federal Public Health Service, an efficient method of protection, maintained against reintroduction either by land or by sea. The existence of plague, however, among the squirrels in the hills and mountains immediately back of the cities about the San Francisco Bay constitutes a ready means of reintroduction through transfer from the squirrels to the rat population again, if the protective measures mentioned should be discontinued.

Thus the squirrel population of the infected territory has been the battle-ground for five years. The field and laboratory work during this time has developed a great deal of valuable and practical information, relative to squirrels and plague infection among them. The centers of infection among the squirrels are known; farmers and others in these districts have been taught how to protect themselves, and encouraged to kill the squirrels on their own property; the hunting of squirrels and carrying home of those shot by city dwellers has been prohibited; picnics and other outing trips into the infected territory have been discouraged in order to prevent people or house pets (dogs, etc.) from coming in contact with infected squirrels or picking up fleas from them; other measures of this character have been instituted. But in spite of every precaution and the active support of the people and the public press in advocating these measures, a few persons have been infected and in the majority of cases have died.

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*The administration of the Plague Suppressive Measures in California is under the direct supervision of officers of the United States Public Health Service, and all figures used in this article are taken from the Service Publications and special reports of these officers to the State Board of Health.

When it is realized that this area of infected territory comprises 140,146 acres, the magnitude of the problem becomes apparent. A special report from the Commanding Field Officer of the Public Health Service contains the following:

> "For the purpose of determining whether plague still exists among squirrels, and also to determine whether new territory had been invaded by the infection, 30,643 squirrels were shot, and 1,090 that were found dead were sent to the Laboratory for examination. A total of 30,845 were examined, and 655 were proven to be plague infected. At the close of the fiscal year ending June 30, 1912, there were 74,901 acres of land known to be infected; October 8, 1912, this land had apparently increased to 125,146 acres; this was probably not an actual increase of infected territory, but an apparent increase due to the discovery of foci heretofore unknown, but which had probably existed undiscovered until intensive hunting brought them to attention. This area has been increased since October, 1912, by about 15,000 acres, so that the total as now known is 140,146 acres."

As against this great area of infection, three inportant facts stand out encouragingly. (1) The actual progress in extermination of squirrels and reduction of prevalence of plague cited above, as demonstrated during the past year. (2) Greatly improved methods of squirrel extermination, which are described later in this article. (3) The passage by the legislature and approval by the Governor of a new "Contagious Disease Act," and appropriation of funds to enable the State Board of Health to continue active co-operation with the Federal authorities in eradicating plague.

The amount of work done and the expenditures authorized during the fiscal year 1912–13 are further evidences of the determination of the people and the authorities to suppress the disease. The work done in the infected and adjoining territory shows 1,613,596 acres treated (114,778 by Public Health Service; 1,498,818 by individual landowners) and 3,546 inspections made in supervising this work. The expenditures necessitated by this work of squirrel destruction, exclusive of expenditures in the cities for the continuance of rat extermination, rat-proofing of buildings, inspection and condemnation of insanitary premises, etc., were distributed as follows:

(1) Expenditures by the Federal Government	$71,820 70
(2) Expenditures by the State of California	7,885 34
(3) Expenditures by the infected counties	7,443 15
(4) Expenditures by the cities in infected counties	1,200 00
(5) Expenditures by the individual landowners	98,423 82
Total expenditures for the year	$186,773 01

The intensive campaign against rats in San Francisco and the other bay cities in 1907–8 resulted in the disappearance of plague among them by December, 1908. Since that date, thousands of rats have been trapped and sent to the laboratories for examination without one infected rat being found. It has been necessary to continue the daily rat-catch and laboratory examinations during these five years in which no plague infected rats have been found, in order to be sure the disease was not creeping back among the rats and through them finding a means of being carried into the homes of the people. The following tables from the usual weekly report of the United States Public Health Surgeon in Charge of Field Operations illustrates the present extent and thoroughness with which this surveillance of the rat population is being carried on.

Rats Collected and Examined for Plague.

Places in California	Week ended	Found dead	Total collected	Examined	Found infected
Cities:					
Oakland	Aug. 30-13	48	713	531	None
Berkeley	Aug. 30-13	7	159	101	None
San Francisco	Aug. 30-13	27	1,774	1,328	None

Identified, *Nus norvegious*, 622; *Nus musculus*, 91.
Identified, *Nus norvegious*, 123; *Nus musculus*, 36.
Identified, *Nus norvegious*, 1,073; *Nus musculus*, 261.
Nus alexandrinus, 173; *nus ratus*, 267.
Rats taken from steamer China, *Nus alexandrinus*, 3.

Plague Suppressive Measures.

For San Francisco, California, week ending August 30, 1913—

Number of premises inspected	1,201
Number of premises destroyed	7
Number of nuisances abated	158
Number of poisons placed	23,100
Average number of traps set daily	8,655

Such reassuring reports concerning plague among the rat population of the cities adds weight to the inference from the findings quoted at the beginning of this article, that an intensive campaign against squirrels in the infected territory will be followed immediately by a marked decrease in prevalence of plague and its ultimate disappearance.

The following table shows clearly the principal foci of infection and other data of importance:

Record of Plague Infection.

Places in California	Date of last case of human plague	Date of last case of rat plague	Date of last case of squirrel plague	Total number rodents found infected since May, 1907
Cities—				
San Francisco	Jan. 30-08	Oct. 23-08	None	398 rats
Oakland	Aug. 9-11	Dec. 1-08	None	126 rats
Berkeley	Aug. 28-07	None	None	None
Los Angeles	Aug. 11-08	None	Aug. 21-08	1 squirrel
Counties:				
Alameda (exclusive of Oakland and Berkeley)	Sept. 24-09	Oct. 17-09 wood rat	Aug. 6-13	366 squirrels 1 wood rat
Contra Costa	July 21-11	None	Aug. 20-13	1524 squirrels
Fresno	None	None	Oct. 27-11	1 squirrel
Merced	None	None	July 12-11	5 squirrels
Monterey	None	None	Aug. 6-11	6 squirrels
San Benito	June 4-13	None	June 16-13	25 squirrels
San Joaquin	Sept. 18-11	None	Aug. 26-11	18 squirrels
San Luis Obispo	None	None	Jan. 29-10	1 squirrel
Santa Clara	Aug. 31-10	None	July 23-13	25 squirrels
Santa Cruz	None	None	May 17-10	3 squirrels
Stanislaus	None	None	June 2-11	13 squirrels

Plans are being perfected for an intensive campaign against the squirrel during the next twelve months. The following summary of practical results from field research by the United States Public Health Service during the past years of the campaign against plague among squirrels provides the essential data upon which must be based the expense and time involved in exterminating squirrels on any given area of land in the infected territory. The opportunity that seems now open to eradicate plague from California should be actively followed up, and residents within the infected area, as well as the citizens at large through their constituted State and local authorities, should urge the enforcement of every measure designed to aid the achievement of the desired result.

Report of Measures for the Suppression of Plague.

"During the fiscal year ended June 30, 1913, a great deal has been accomplished in the destruction of ground squirrels for the purpose of eradicating the infection of bubonic plague, which has existed among them continuously since its first discovery in August, 1908.

To illustrate:

Inspections made	3,546	
Acres treated for destruction of squirrels—		
By individual land owners		1,498,818
By Public Health Service		114,778
Total		1,613,596

In 1912, to July 1, there were shot on the infected and adjoining territory 16,957 squirrels; of these 506 were infected, and so far as determined about 50 per cent of these had the disease in its septicæmic form.

In 1913, to July 1, there were shot on the same territory with more hunters in the field, under conditions otherwise as nearly parallel as possible, only 10,369 squirrels, 279 of which were infected, but only 3.6 per cent had the disease in the septicæmic form. There was, therefore, an apparent reduction in squirrels of 37.7 per cent; a reduction in percentage of infected squirrels of 10 per cent, and a reduction in septicæmia of 92.8 per cent.

For the purpose of determining whether plague still existed among squirrels, and also to determine whether new territory had been invaded by the infection, 30,643 squirrels were shot, and 1,090 that were found dead were sent to the Laboratory for examination. A total of 30,845 were examined, and 655 were proven to be plague infected. At the close of the fiscal year ending June 30, 1912, there were 74,901 acres of land known to be infected; October 8, 1912, this had apparently increased to 125,146 acres; this was probably not an actual increase of infected territory, but an apparent increase due to the discovery of foci heretofore unknown, but which had probably existed undiscovered until intensive hunting brought them to attention. This area has been increased since October, 1912, by about 15,000 acres, so that the total as now known is 140,146 acres.

Field Research.

A careful study of the methods of squirrel destruction that had been in use in previous years had shown the following:

Poisoned grain could be used to advantage in the dry season only, and required so many applications to the land to produce good results that the patience of the average person was exhausted before the desired results were obtained.

Carbon bisulphide as used by the waste ball method was more effective than grain, but could be used during the wet season only, on account of danger of fire or of dissipation of the gases through the cracks in the dry ground, and had the additional disadvantage of being expensive.

Other methods in occasional use were too troublesome or had other disadvantages that rendered them unfit for general use.

In view of the above considerations, careful studies were made of the ground squirrel, his habits, the nature and extent of the burrows, etc., in order that some more effective method might be devised if possible. The following facts were determined:

The average squirrel burrow is 14.5 feet in length, average diameter between 3.5 and 4 inches, cubic capacity 1.45 cubic feet. The animals generally live in colonies and the burrows connect or intercommunicate, and are occasionally located on different levels, one set of burrows underlying the others.

After an extensive series of experiments an apparatus was devised by Doctors Long, Currie, and Simpson of the Public Health Service, which was called a "Squirrel Destructor." This apparatus delivers, under slight pressure, 13.3 cubic feet of a poisonous gas of 2.1 per cent strength into the squirrel burrow. The complete operation of treating a single burrow consumes an average of one minute of time. In order that the uses of this apparatus might be conserved to the public, the apparatus was patented. Patent No. 1,059,622, dated April 22, 1913, was granted with the provision that the apparatus could be used by anyone in the United States without payment of a royalty.

In addition to the development of the "Destructor," a number of investigations were made with poisons of various kinds, and with different forms of apparatus. As a rule, however, these preparations and apparatus were not of general application, and aside from the general knowledge gained nothing of value was obtained.

Careful observations have been made during the year and accurate data kept of work performed, so that now it is possible with a fair degree of accuracy to estimate what the average cost per acre will be to eradicate the squirrels from a given piece of land, as well as to know from the reports that come from the field whether the men engaged are doing their full duty or not. These determinations are made by the use of curves and equations that have been carefully worked out and tested.

As an illustration: Given the average number of holes per acre on a tract of land (this average to be obtained by measuring off specimen acres here and there, counting the holes and striking an average number per acre), the average cost per acre of destroying squirrels with the destructor can be obtained. The equation used is $X = 2.43\ Y + 6.48$.

$X =$ cost per acre in cents.

$Y =$ average number of holes per acre.

With an average infestation of five holes per acre, the cost would be as follows:

$X = 2.43 \times 5 + 6.48 = 18.63$ cents; the figure of 18.63 cents per acre is accurate within the limits of 10 per cent and represents the cost of labor and materials only, not taking into consideration supervision or first cost of destructors; it is evident that these factors could not be included, as they vary within such wide limits.

Methods of Extermination.

Poisoned grain.—This is made in accordance with the following formula:

Grain (barley, wheat or oats)	20 pounds
Starch paste	1 pint
Strychnine sulphate	1 ounce
Saccharine	1 dram

Dissolve the strychnine and saccharine in the hot starch paste, mix thoroughly, pour over the grain and stir until thoroughly mixed and dry.

The materials for this poison will cost from five to six or more cents per pound, and an average of from one half to three fourths pounds per acre will be required for each application. For eradication of squirrels from four to five applications to the land at ten-day intervals will be required, preferably in the dry season, when rain will not wash off the poison, and when green food which will satisfy the ordinary needs of the squirrels is not available. Cost per acre for labor and materials, for each application, about ten cents. Efficiency, if used as above outlined, 85 per cent to 90 per cent.

Plague Flea of California.

Man's Flea.

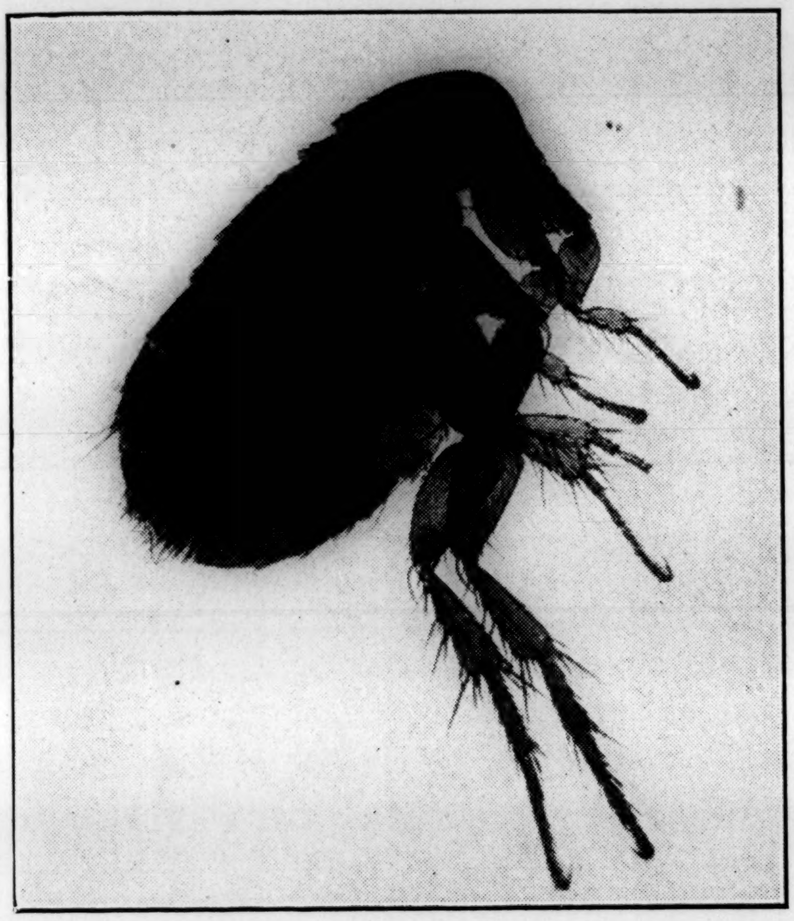
Carbon bisulphide.—Waste ball method.

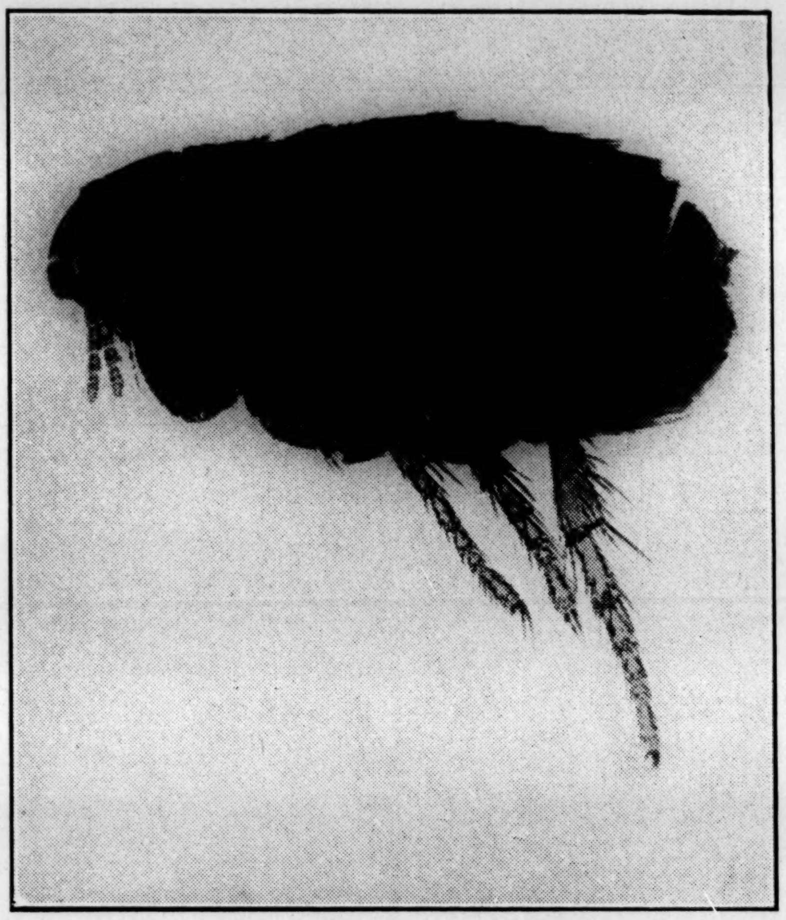
Saturate a small ball of waste or other absorbent material with two ounces of carbon bisulphide, crude preferred, place in burrow from one to two feet, then follow one of two procedures. First, cover the hole and allow the gases to diffuse and asphyxiate the squirrel, or ignite and then cover the hole.

Cost per hole, labor and materials, from four to five cents. Efficiency, 80 per cent to 85 per cent. Both methods are applicable in the wet season only, on account of danger from fire, and on account of likelihood of loss of gas through holes or cracks in the ground. Even when the gas is not intentionally ignited, there is risk of igniting it by striking a spark from a stone with the mattock when covering the hole.

Squirrel Destructor.

This is an apparatus for forcing poisonous gas into the squirrel burrow. In using the apparatus the hose attached to the destructor is inserted into the squirrel burrow, the hole is then covered with dirt, 13.3 cubic feet of air is then forced through a vaporizing chamber which contains one ounce of the liquid used; this forms a 2.1 per cent gas. Inasmuch as the cubic capacity of the burrow only averages 1.45 cubic feet, and as the operation of pumping requires 30 to 45 seconds of time, it will be seen that all the air in the burrow is displaced and the poisonous gas is substituted; as the gas is heavier than air it will remain in the closed burrow for several hours or longer, depending upon the porosity of the ground. As the average time to suffocate a squirrel does not exceed 45 minutes, the gas will remain even in dry and cracked ground a much longer time than is necessary. In the rainy season when the ground is wet the gas remains longer, and in some instances it may not be possible to deliver the full number of strokes (forty in all), due to the back pressure from pumping into the enclosed space.


The Common Dog Flea.


Plague Flea of India.

There are two preparations obtainable, adapted for use in the squirrel destructor. One is sold under the name of Refined Carbon Bisulphide, the other as a compound carbon bisulphide (trade name Kilmol).

Both preparations are free from sulphuric acid, sulphuretted hydrogen, sulphur in solution, or other substances which will corrode metal, or clog passageways or tubes.

Carbon bisulphide kills the squirrel by asphyxiation. Kilmol, in addition to producing asphyxiation, is said to contain an irritant poison which prevents the squirrel from reviving should fresh air get to the animal.

The retail cost of both preparations is practically the same. Efficiency: carbon bisulphide, 90 per cent to 95 per cent; Kilmol, 98 per cent to 100 per cent.

With carbon bisulphide the land will probably have to be treated a second time to effect complete eradication. With Kilmol, one treatment in conjunction with a little poisoned grain, for the purpose of destroying squirrels that may be in hiding and not in their burrows at the time the same are treated, is usually sufficient.

The cost per acre, using either material, will vary in accordance with the degree of infestation, but can be determined in advance with a fair degree of accuracy by the use of the formula given earlier in the report.

Recapitulation of Methods of Squirrel Destruction.

Poisoned grain.—Applicable principally in dry season; four to five applications needed; cost, 40 to 50 cents per acre.

Carbon bisulphide.—Waste ball method. Applicable during rainy season only; two applications needed, at the least. Average cost, 60 to 75 cents per acre.

Squirrel destructor.—Applicable during any season of year. One, or, at most, two applications needed. Average cost, 18 to 28 cents per acre, depending upon number of holes per acre treated.

Attitude of the Public.

As a result of the work of the past year in devising and perfecting a satisfactory means of destroying squirrels, the public generally has been aroused to a new interest in the question of squirrel eradication, and a number of large private holdings are now being cleared of squirrels at the expense of the owners. Landowners are now realizing as never before that the saving in products that had heretofore been destroyed will repay several times over in a year the amount expended in the destruction of these pests.''

The New "Contagious Disease Act."

The old ''Contagious Disease Act'' and the act for the extermination of rodents proved inadequate as the legal basis for administrative measures in the campaign against plague. Accordingly, a new bill was prepared which embodied the ideas of the United States Public Health authorities, district attorneys, the members of the State Board of Health, and others who had studied the problem. This bill received careful consideration by the legislature and the Governor, and became effective as a law August 10, 1913. The text of this law is as follows:

CHAPTER 422.

An act to prevent the introduction, and provide for the investigation and suppression of contagious or infectious diseases, and appropriating money to be used for such purpose.

[Approved June 7, 1913.]

The people of the State of California do enact as follows:

SECTION 1. The sum of one hundred thousand dollars is hereby appropriated out of any moneys in the state treasury not otherwise appropriated, to be expended by the state board of health, under the direction of the governor, for the prevention of the introduction of Asiatic cholera, bubonic plague, smallpox or other contagious or infectious disease into this state, and for their investigation and suppression in case of their origin or introduction. The claims for such expenditures must be audited by the board of control, except that when, in the opinion of the governor, an emergency arises which demands or necessitates the immediate use of money for the purposes herein provided, the controller must draw his warrant in the name of the governor without such audit, on account of the sum hereby appropriated, upon the order of the governor, in such sums, from time to time, not exceeding one thousand dollars at any one time, as he may direct. In cases where sums are so drawn upon the order of the governor, without audit by the board of control, vouchers must be thereafter filed with the controller, showing the manner and the purposes for which such sums have been expended. Such portion of the sum provided by this section as may be deemed advisable by the state board of health and approved by the governor, may be used in accordance with the provisions of this section and section 2, provided that all expenditures connected therewith shall be audited by the board of control and paid by the state treasurer upon warrants drawn by the controller, in accordance with the provisions of this section.

SEC. 2. Whenever any land, place, building, structure, wharf, pier, dock, vessel or water craft is infested with rodents, insects or other vermin which are liable to convey or spread contagious or infectious disease from an existing focus declared by the state board of health, it shall be the duty of said board to at once notify the person, firm, co-partnership, company or corporation, owning said land, place, building, structure, wharf, pier, dock, vessel or water craft, of the existence of said rodents, insects, or other vermin, and said notice shall direct said owner to proceed immediately to exterminate and destroy said rodents, insects, or other vermin, and to continue in good faith such measures as may be necessary to prevent their return. In the event that said owner fails, refuses or neglects to proceed as above provided, within ten days from date of receipt of said notice, the state board of health may at once proceed to exterminate and destroy said rodents, insects or other vermin, and take such measures as may be necessary to prevent their return, and the cost of the above measures shall be repaid to the state board of health by the board of supervisors or other governing body of the county, city and county, city or town wherein the work is done at its next meeting after the bill is presented, and the appropriation provided in section 1 of this act shall be reimbursed by the amount so paid, and may be again expended in a similar manner.

SEC. 3. Whenever a board of supervisors or other governing body of any county, city and county, city or town, shall have repaid the state board of health any sum as provided in section two, the clerk of such board shall file in the office of the county recorder a notice of such payment, claiming a lien on such property for the amount of such payment. Any and all sums so paid by such county, city and county, city or town, shall be a lien on the property on which such rodents, insects or other vermin shall have been exterminated and destroyed, and may be recovered in an action against such property, which action to foreclose such lien shall be brought within ninety days after such payment, and be prosecuted by the district, city or town attorney, in the name of such county, city and county, city or town, and for its benefit. When the property is sold, enough of the proceeds shall be paid into the treasury of such county, city and county, city or town, to satisfy such lien and the costs and overplus, if any there be, shall be paid to the owners of the property, if known, and if not known shall be paid into the court for the use of such owner when ascertained. When it appears from the complaint in such action that the property on which such lien is to be foreclosed is likely to be removed from the jurisdiction of the court, the court may appoint a receiver to take possession of the property and hold the same while the action may be pending or until the defendant shall execute and file a bond, with sufficient sureties, conditioned for the payment of any judgment that may be received against him in the action and all costs.

SEC. 4. This act, inasmuch as it provides for an appropriation for the usual current expenses of the state, shall, under the provisions of section 1 of article IV of the Constitution of the State of California, take effect immediately.

On August 20th the State Board of Health adopted the following resolution:

> WHEREAS, There has been found within the territory comprised in the counties of Contra Costa, Alameda, Santa Clara, Santa Cruz, Monterey, San Benito, Merced, Stanislaus, and San Joaquin, of the State of California, a total of one thousand eight hundred and forty-three (1,843) ground squirrels (*Citellus Beecheyi*) which have been proven by laboratory investigation to have been infected with a contagious and infectious disease, to wit, Bubonic Plague; and
>
> WHEREAS, An act of the legislature of the State of California, approved June 7, 1913, provides: "Whenever any land, place, building, structure, wharf, pier, dock, vessel or water craft is infected with rodents, insects or other vermin which are liable to convey or spread contagious or infectious disease from an existing focus declared by the State Board of Health, it shall be the duty of said Board to at once notify the person, firm, co-partnership, company or corporation, owning said land, place, building, structure, wharf, pier, dock, vessel or water craft, of the existence of said rodents, insects, or other vermin and said notice shall direct said owner to proceed immediately to exterminate and destroy said rodents, insects or other vermin, and to continue in good faith such measures as may be necessary to prevent their return. In the event that said owner fails, refuses or neglects to proceed as above provided, within ten days from date of receipt of said notice, the State Board of Health may at once proceed to exterminate and destroy said rodents, insects or other vermin, and take such measures as may be necessary to prevent their return, and the cost of the above measures shall be repaid to the State Board of Health by the board of supervisors or other governing body of the county, city and county, city or town wherein the work is done at its next meeting after the bill is presented and the appropriation provided in section 1 of this act shall be reimbursed by the amount so paid, and may be again expended in a similar manner."
>
> Therefore, be it
>
> *Resolved*, That the territory comprised within the aforesaid counties is hereby declared to be an existing focus of contagious and infectious disease; and be it further
>
> *Resolved*, That the Secretary of this Board be directed to notify the supervisors of the above named counties of the passage of this resolution, and of the intention of the State Board of Health to proceed in accordance with the provisions of the act of the state legislature, approved June 7, 1913.

ERRATUM—
CONCLUDED ON PAGE 40.

COMMENTS.

Why Bubonic Plague Among Squirrels is a Public Health Problem.

The question is often asked, "Why is plague among squirrels a danger to human beings?" It is generally conceded to be an excellent plan to kill off the squirrels as a measure to protect crops, but to spend money for killing them as a protection to our cities and our commerce with other states and nations raises a question. It is maintained that no plague has existed in the bay cities of California since 1908. How, then, can the existence of plague among the squirrel population of certain bay counties be a constant source of danger to these cities?

The answer lies in the facts of transmission of plague. In California the chief agent in transferring plague to its human victims has been the flea,—or more properly, certain species of fleas. So long as plague exists among the squirrels there is danger of the disease spreading from colony to colony, awaiting its opportunity to transfer to the rat population of a city. It is known that squirrels frequently live in direct association with rats in the outskirts of cities, about loading-wharves, grain warehouses, etc. The transfer of the disease from the squirrel to the rat population at once extends the opportunities of the plague bacillus to the places visited by the rats. These places include the houses of people, and this opens the way for fleas, which have gorged themselves on the blood of plague-infected rats, to transfer to people, whom they innoculate. Thus may an explosive epidemic appear among the people of the city without preliminary warning or ascertainable source.

The Annual Conference of Public Health Officials.

Every year the State Board of Health holds a conference with the County and City Health Officers of California. For convenience and in order that the conference may have the widest influence, it is held at the same time and place designated for the Annual Meeting of the League of California Municipalities. This year the conference will be held at Venice, California, October 5th to 12th. Dr. W. A. Sawyer, Director of the Bureau of the Hygenic Laboratory, has immediate charge of the program. Unusually successful sessions seem to be assured, and a large number of health officers have signified their intention to be present. Subject to necessary modification, the program is as follows:

Monday, October 6th.
  Public Welfare Exposition and Inspection Trips.
Tuesday, October 7th.
  Morning—Reports from each member relative to his chief public health problem.
  Afternoon—Standard Methods of Health Administration.
Wednesday, October 8th.
  Morning—New Legislation and New Problems in Disease Prevention.
  Afternoon—The Control of Tuberculosis.
  Evening—Illustrated Discussions.
Thursday, October 9th.
  Morning—Smallpox, Leprosy, Plague, Typhoid Fever.
  Afternoon—Water-supplies, Sewage Disposal, Garbage Disposal.
Friday, October 10th.
  Morning—Sociological Problems Affecting Public Health.
  Afternoon—Inspection Trips.
Saturday, October 11th.
  All-day Tour of Inspection.

The general procedure under the provisions of this new law and the resolution quoted above will be as follows:

1. All the counties mentioned in the resolution will be divided into districts of approximately 40,000 acres each.

2. Each county will have a supervising inspector, and each forty-thousand acre district will be in charge of one field inspector.

3. The field inspector will serve the following notice upon each property owner whose land is infested:

NOTICE.

No. --------

--------------------, *California,* --------------, *191*--

You are hereby notified that the property owned by you in T. -----, *R.* -----
S. -----, *or Grant* --
is infested with rodents (ground squirrels). Inasmuch as --------------------
County has been declared by the State Board of Health to be an existing focus of contagious or infectious disease, as provided by an act of Legislature approved June 7, 1913, it becomes your duty under said law to proceed to exterminate and destroy said rodents (ground squirrels). It is required that measures of extermination be instituted within ten days of receipt of this notice.

Respectfully,

STATE BOARD OF HEALTH,

Secretary.

Receipt acknowledged *Served by*

-------------------- Owner.

-------------------- Field Inspector.

4. At the expiration of ten days, the inspector will call again to determine whether eradication measures have been instituted by the owner.

5. If such measures have not been instituted by the owner as the law requires, the field inspector will request the owner of the land to state a definite date, as early as possible, upon which work will begin.

6. If work does not begin on or before the date agreed upon, the field inspector will report the facts to the supervising inspector, who will proceed with the collection of special data for a report upon which the further provisions of the law will be enforced by the State Board of Health.

REPORT OF THE BUREAU OF ADMINISTRATION FOR AUGUST, 1913.

JOHN F. LEINEN, Director.

Division of Sewage Disposal and Water Supplies.

The activities of the Consulting Engineer of the Board during the month of August were largely confined to correspondence and general advice relating to water supplies, sewerage and sewage disposal, to the making of digests of recent legislation affecting these matters and to conferences aimed at the devising of a program for carrying out the provisions of these legislative acts. During the month also a series of papers, relating to the sewage disposal problem in this State, was prepared for publication, and the preliminary studies were begun upon a paper entitled ''Stream Pollution and Controlling Legislation in California,'' to be presented to the sanitary engineering section of the Colorado Springs meeting of the American Public Health Association in September.

On August 2d the Consulting Engineer met in conference with the State Board of Health and representatives delegated by the city of Orange to personally confer with the State Board of Health with reference to the sewage disposal problem of that place. On August 7th a conference was had with the Consulting Engineer of the city of Stockton with reference to certain phases of the problem of sewage disposal for the city.

Division of Morbidity Statistics.

Number of Cases of Communicable Disease Reported during August, 1913.

Disease	Cases
Cerebrospinal meningitis (epidemic)	3
Chickenpox	26
Diphtheria	102
Erysipelas	4
German measles	3
Gonococcus infection	11
Hookworm	1
Leprosy	1
Malaria	1
Measles	39
Mumps	45
Pellagra	4
Plague	1
Pneumonia	27
Poliomyelitis	10
Rabies	1
Scarlet fever	78
Smallpox	35
Syphilis	1
Tetanus	2
Tuberculosis	163
Typhoid fever	183
Whooping cough	62
Total	803

Smallpox.

Table Showing Distribution of Cases Reported during August, 1913.

Counties and cities	Number of new cases reported during month	Deaths	Vaccination history of cases			
			Number vaccinated within seven years preceding attack	Number last vaccinated more than seven years preceding attack	Number never successfully vaccinated	Vaccination history not obtained or uncertain
Alameda County:						
Oakland	1				1	
El Dorado County	1				1	
Mendocino County:						
Ukiah	11					11
Los Angeles County	1					1
Nevada County	2					2
Grass Valley	1				1	
Nevada City	5				4	1
Placer County:						
Auburn	1					1
Sacramento County:						
Sacramento	1				1	
San Joaquin County:						
Lodi	1			1		
Stockton	1					1
Santa Clara County	2				1	1
San Jose	6				1	5
Sonoma County:						
Santa Rosa	1				1	
Totals	35			1	11	23

Typhoid Fever.

Distribution of Cases Reported during August, 1913.

Counties and cities	Number of new cases reported during month
Alameda County:	
Berkeley	2
Oakland	16
Butte County:	
Gridley	2
Colusa County	3
Contra Costa County:	
Pittsburg	1
Fresno County	10
Fresno	2
Humboldt County:	
Eureka	8
Kings County	2
Lake County	4
Lassen County:	
Susanville	6
Los Angeles County	4
Glendora	2
Long Beach	4
Los Angeles	33
San Gabriel	1
Modoc County:	
Alturas	1
Nevada County	7
Orange County:	
Santa Ana	1
Placer County:	
Rocklin	2
Riverside County:	
Riverside	1
Sacramento County:	
Sacramento	12
San Benito County	1
San Bernardino County:	
Ontario	4
Redlands	1
San Diego County:	
National City	2
San Diego	10
San Francisco County	25
Santa Barbara County:	
Santa Barbara	1
Santa Clara County	4
Santa Clara	1
Shasta County	1
Solano County	1
Benicia	3
Rio Vista	1
Vallejo	1
Stanislaus County:	
Newman	1
Tulare County:	
Dinuba	2
Total	183

REPORT OF BUREAU OF VITAL STATISTICS.*

GEORGE D. LESLIE, Director.

State Totals and Annual Rates.—The following table shows for California as a whole the birth, death and marriage totals for the current and preceding months in comparison with those for the corresponding months of last year, as well as the annual rates per 1,000 population represented by the totals for the current and preceding months. The rates are based on an estimated midyear population of 2,671,491 for California in 1913, the estimate having been made by the Census Bureau method with slight modifications.

Birth, Death and Marriage Totals, with Annual Rates per 1,000 Population for Current and Preceding Months for California: July.

Month	Monthly total		Annual rate per 1,000 population: 1913
	1913	1912	
July—			
Births	3,820	3,366	16.8
Deaths	3,108	2,982	13.7
Marriages	2,760	2,786	12.2
June—			
Births	3,759	3,309	17.1
Deaths	3,057	2,794	13.9
Marriages	3,371	3,079	15.4

The birth and death totals for July were greater in 1913 than in 1912, the gain being particularly great in the case of births.

County Totals.—The first table which follows below shows the monthly birth, death and marriage totals for the principal counties of the State, the list being limited to counties having a population of at least 25,000 according to the Federal Census of 1910. Totals are also shown for San Francisco and the other bay counties (Alameda, Contra Costa, Marin, and San Mateo), as well as for Los Angeles and Orange counties together.

City Totals.—The second of the following tables gives the birth and death totals for the principal freeholders' charter cities, the list including all chartered cities with a census population of at least 15,000 in 1910. Totals are given likewise for San Francisco in comparison with Oakland, Alameda, and Berkeley, the three cities adjoining one another on the east shore of San Francisco Bay, as well as for Los Angeles in comparison with neighboring chartered cities (Long Beach, Pasadena, Pomona, and Santa Monica).

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*NOTE.—The present report is for the month preceding, but one. This order must be followed hereafter because of the publication of the Bulletin during the early part of the month, before the tabulation of records for the preceding month is completed.

Birth, Death and Marriage Totals, for Principal Counties: July.

County	July, 1913		
	Births	Deaths	Marriages
California	3,820	3,108	2,760
Counties of more than 25,000 population (1910):			
Alameda	433	282	240
Butte	47	35	13
Contra Costa	39	31	17
Fresno	133	92	88
Humboldt	25	36	22
Kern	53	54	45
Los Angeles	1,056	768	681
Marin	17	36	110
Orange	39	48	119
Riverside	63	29	31
Sacramento	149	116	102
San Bernardino	87	73	61
San Diego	137	99	147
San Francisco	641	523	523
San Joaquin	63	79	54
San Mateo	41	20	29
Santa Barbara	35	28	21
Santa Clara	142	119	88
Santa Cruz	42	45	27
Solano	31	37	19
Sonoma	49	59	28
Tulare	43	36	24
Selected groups:			
San Francisco and other bay counties	1,171	892	919
Los Angeles and Orange counties	1,095	816	800

Birth and Death Totals, for Principal Cities: July.

City	July, 1913	
	Births	Deaths
Freeholders' charter cities	2,440	1,844
Cities of more than 15,000 population (1910):		
Alameda	38	22
Berkeley	56	31
Fresno	40	41
Long Beach	47	36
Los Angeles	733	492
Oakland	291	169
Pasadena	59	25
Riverside	25	18
Sacramento	117	90
San Diego	107	84
San Francisco	641	523
San Jose	53	37
Stockton	23	39
Selected groups:		
San Francisco	641	523
Oakland, Alameda and Berkeley	385	222
Totals, bay cities	1,026	745
Los Angeles	733	492
Neighboring cities	127	85
Totals	860	577

Causes of Death.—The following table shows the classification of deaths in California in the current month, in comparison with the preceding month:

Deaths from Certain Principal Causes, with Proportion per 1,000 Total Deaths, for Current and Preceding Months, for California: July.

Cause of death	Deaths: July	Proportion per 1,000	
		July	June
All causes	3,108	1,000.0	1,000.0
Typhoid fever	47	15.1	11.1
Malarial fever	6	1.9	3.6
Smallpox	------	----------	1.0
Measles	13	4.2	9.2
Scarlet fever	5	1.6	4.6
Whooping cough	16	5.1	3.3
Diphtheria and croup	5	1.6	4.9
Influenza	4	1.3	3.0
Other epidemic diseases	17	5.5	6.5
Tuberculosis of lungs	342	110.0	117.8
Tuberculosis of other organs	76	24.5	28.1
Cancer	227	73.0	66.4
Other general diseases	151	48.6	44.2
Meningitis	27	8.7	11.1
Other diseases of nervous system	244	78.5	89.6
Diseases of circulatory system	463	149.0	159.3
Pneumonia and broncho-pneumonia	133	42.8	48.1
Other diseases of respiratory system	60	19.3	16.7
Diarrhea and enteritis, under 2 years	163	52.4	40.2
Diarrhea and enteritis, 2 years and over	37	11.9	17.0
Other diseases of digestive system	187	60.2	48.4
Bright's disease and nephritis	220	70.8	62.8
Childbirth	49	15.8	9.5
Diseases of early infancy	108	34.7	38.9
Suicide	70	22.5	23.6
Other violence	297	95.6	86.0
All other causes	141	45.4	45.1

In July there were 463 deaths, or 14.9 per cent of all, from diseases of the circulatory system, and 418, or 13.5 per cent, from various forms of tuberculosis. Heart disease thus led tuberculosis for July as for June and May.

Other notable causes of death in July were: Violence, 367; diseases of the digestive system, 287; diseases of nervous system, 271; cancer, 227; Bright's disease and nephritis, 220; diseases of respiratory system, 193, and epidemic diseases, 113.

The deaths from epidemic diseases were as follows: Typhoid fever, 47; whooping-cough, 16; measles, 13; malarial fever, 6; scarlet fever, 5; diphtheria and croup, also 5, and all other epidemic diseases, 21.

The deaths from the six leading epidemic diseases reported for the month were distributed by counties as follows:

Typhoid fever	
Alameda	2
Alpine	1
Colusa	1
Fresno	2
Lassen	1
Los Angeles	9
Monterey	1
Nevada	1
Sacramento	4
San Diego	3
San Francisco	10
San Joaquin	1
Santa Clara	1
Santa Cruz	1
Sonoma	2
Stanislaus	2
Sutter	1
Tulare	3
Yuba	1
Total	47

Whooping cough	
Fresno	1
Los Angeles	12
San Francisco	1
San Joaquin	1
Stanislaus	1
Total	16

Measles	
Fresno	1
Los Angeles	9
Merced	1
San Francisco	2
Total	13

Malarial fever	
Fresno	2
Kings	1
Sacramento	2
San Francisco	1
Total	6

Scarlet fever	
Butte	1
Fresno	3
Yuba	1
Total	5

Diphtheria and croup	
Fresno	1
Los Angeles	2
San Francisco	1
San Joaquin	1
Total	5

Geographic Divisions.—The following table presents data for geographic divisions, including the metropolitan area, or San Francisco and the other bay counties (Alameda, Contra Costa, Marin, and San Mateo), in comparison with the rural counties of Northern and Central California:

Deaths from Main Classes of Diseases, for Geographic Divisions: July.

Geographic division	Deaths: July										
	All causes	Epidemic diseases	Tuberculosis (all forms)	Cancer	Diseases of nervous system	Diseases of circulatory system	Diseases of respiratory system	Diseases of digestive system	Bright's disease and nephritis	Violence	All other causes
THE STATE	3,108	113	418	227	271	463	193	287	220	367	549
Northern California	354	14	26	26	28	69	23	38	24	54	52
Coast counties	176	3	12	13	18	39	14	13	15	24	25
Interior counties	178	11	14	13	10	30	9	25	9	30	27
Central California	1,655	58	211	132	154	249	100	201	134	188	228
San Francisco	523	18	75	51	35	94	36	54	46	42	72
Other bay counties	369	6	48	27	36	70	27	34	30	44	47
Coast counties	205	4	25	15	30	29	10	28	12	22	30
Interior counties	558	30	63	39	53	56	27	85	46	80	79
Southern California	1,099	41	181	69	89	145	70	148	62	125	169
Los Angeles	768	36	120	50	58	108	49	103	46	78	120
Other counties	331	5	61	19	31	37	21	45	16	47	49
Northern and Central California	2,009	72	237	158	182	318	123	239	158	242	280
Metropolitan area	892	24	123	78	71	164	63	88	76	86	119
Rural counties	1,117	48	114	80	111	154	60	151	82	156	161

Sex and Age Periods.—The proportion of the sexes among the 3,108 decedents in July was: Male, 1,917, or 61.7 per cent; and female, 1,191, or 38.3 per cent.

The following table shows the age distribution by numbers and per cents of deaths classified by sex:

Deaths Classified by Sex and Age Periods, with Per Cents by Age Periods, for California: July.

Age period	Deaths			Per cent		
	Total	Male	Female	Total	Male	Female
All ages	3,108	1,917	1,191	100.0	100.0	100.0
Under 1 year	407	241	166	13.1	12.6	13.9
1 to 4 years	162	80	82	5.2	4.2	6.9
5 to 14 years	77	38	39	2.5	2.0	3.3
15 to 24 years	207	123	84	6.7	6.4	7.0
25 to 34 years	322	201	121	10.3	10.5	10.2
35 to 44 years	326	198	128	10.5	10.3	10.7
45 to 54 years	364	243	121	11.7	12.7	10.2
55 to 64 years	413	264	149	13.3	13.7	12.5
65 years and over	830	529	301	26.7	27.6	25.3

This table shows that relatively more females than males died at the age periods under 25 years, while relatively more males than females, generally speaking, died at the age periods above 25 years.

Occupations.—The table below gives, for deaths 15 years and over, the number of men and women for whom some occupations were reported in contrast with those for whom no gainful occupation was shown.

Deaths, 15 Years and Over, Classified by Sex and Occupation, with Per Cents by Sex, for California: July.

	Deaths			Per cent male	Per cent female
	Total	Male	Female		
15 years and over	2,462	1,558	904	63.3	36.7
Occupation reported	1,445	1,347	98	93.2	6.8
No gainful occupation	1,017	211	806	20.7	79.3

Of the 1,445 decedents for whom occupations were reported the males numbered 1,347, or 93.2 per cent, and the females only 98, or 6.8 per cent.

The following table shows the distribution of male decedents 15 years and over, engaged in the main kinds of occupation.

Deaths of Males Fifteen Years and Over Engaged in Gainful Occupations, Classified by Kind of Occupation, with Per Cents, for California: July.

Kind of occupation	Males 15 years and over	
	Deaths	Per cent
All occupations	1,347	100.0
Professional	79	5.9
Clerical and official	105	7.8
Mercantile and trading	101	7.5
Public entertainment	39	2.9
Personal service, police and military	27	2.0
Laboring and servant	287	21.3
Manufacturing and mechanical industry	270	20.0
Agriculture, transportation and other outdoor pursuits	430	31.9
All other occupations	9	0.7

Of the 1,347 male decedents for whom occupations were reported, 430, or 31.9 per cent, were engaged in agriculture, transportation, and other outdoor pursuits; 28.7, or 21.3 per cent, in laboring and servant work; 270, or 20.0 per cent, in manufacturing and mechanical industry; and altogether 360, or 26.8 per cent, in professional, clerical and official, mercantile and trading, and all other occupations.

It should be noted that the figures on deaths occurring in different occupations are necessarily affected by the fact that in California a large number of men are engaged in agriculture and other outdoor pursuits, while relatively few follow professional and similar occupations which show small numbers of deaths.

REPORT OF THE BUREAU OF THE HYGIENIC LABORATORY FOR AUGUST, 1913.

WILBUR A. SAWYER, M.D., Director.

Infantile Paralysis.

The season in which infantile paralysis (epidemic poliomyelitis) attacks most people is the late summer and fall. This year a few cases were reported to the State Board of Health during July and August, and some of them have been investigated by the staff of the Laboratory. We must expect that the number of cases will increase during the fall months, but there is as yet no reason to anticipate an unusual number. Physicians and the public can render valuable assistance to the health authorities by insisting on the strict observance of the rules laid down by the State Board of Health. These rules include in their requirements quarantine for thirty days from the onset of the disease and observance of the same precautions as in cases of other infectious diseases, of which scarlet fever is suggested as a type.

Health officials are far from being satisfied with our meager knowledge of the method of spread of poliomyelitis. The Hygienic Laboratory is conducting investigations in the Laboratory and in the field, with a view to collecting facts useful in the prevention of the disease. Physicians and the general public can assist by informing the director of the laboratory of conditions which bring evidence on this subject. At present, information is specially requested regarding cases where there seems to be a probability that the infection was brought by healthy adults from a case occurring days, weeks, or even a year before. We expect the most conclusive evidence to come from small towns and from the open country where the chance for exchange of infection is limited to a small number of people.

As there is some evidence in favor of biting insects playing a part in the transmission of the disease, observations in this regard will be appreciated.

Division of Biological Examinations.

Summary of Examinations Made in the California State Hygienic Laboratory during the Month of August, 1913.

Condition suspected	Positive	Negative	Inconclusive	Total
Main Laboratory at Berkeley:				
Anthrax	1	3		4
Diphtheria	3	8		11
Gonococcus infection	22	7		29
Malaria		4	1	5
Rabies	25	4	1	30
Tuberculosis	4	19		23
Typhoid	1	31	1	33
Water pollution		3	4	7
Miscellaneous		1		1
				143
Northern Branch at Sacramento:				
Diphtheria	1	6	2	9
Malaria	1	2		3
Tuberculosis	2	5		7
Typhoid	9	15		24
				43
San Joaquin Valley Branch at Fresno:				
Diphtheria		1		1
Tuberculosis		1		1
Typhoid	1	12		13
				15
Southern Branch at Los Angeles:				
Diphtheria	1	6		7
Typhoid	1	12		13
				20
Total number of examinations				221

Division of Preventive Therapeutics.

Pasteur Treatment for the Prevention of Rabes by the State Hygienic Laboratory during the Month of August, 1913.

	Treatment commenced	Treatment completed
Main Laboratory at Berkeley	14	5
Northern Branch at Sacramento	2	1
San Joaquin Valley Branch at Fresno	1	2
Southern Branch at Los Angeles	0	1
Laboratory of Sacramento Board of Health, by deputized bacteriologist	0	1
Laboratory of San Francisco Board of Health, by deputized bacteriologist	1	2
Laboratory of Los Angeles Board of Health, by deputized bacteriologist	0	0
Laboratory of Letterman General Hospital, Presidio, by deputized bacteriologist	1	0
	19	12

Public Health Instruction.

Participation in Instruction in Public Health during August, 1913.

Main Laboratory at Berkeley:	
Bacteriological instruction outfits sent out	1
Bacteriological instruction outfits in use	16
Lectures or talks	0

Division of Epidemiological Investigations.

Epidemiological Investigations during August, 1913.

Main Laboratory at Berkeley:	
Special investigation by the director	1
Investigation of epidemic poliomyelitis in Dunsmuir and Weed.	
Special investigation by the assistant bacteriologist	1
An investigation into the possibility of the transmission of disease by the mouthpiece of the public telephone.	

REPORT OF BUREAU OF FOODS AND DRUGS FOR AUGUST, 1913.

PROF. M. E. JAFFA, Director.

The usual routine work of the Laboratory has been greatly interfered with during the past month by the moving of the food and drug laboratory. The new laboratory is much larger than the old and will give increased facilities for additional work.

About seventy-five samples of miscellaneous materials were received at the Laboratory and will be worked up just as soon as possible.

It is very encouraging to note by the reports of the inspectors that the retail stores, particularly the butchers, are complying with the rules and regulations of the State Board of Health with reference to the proper placarding in connection with the sale of meats and meat food products.

It is also very gratifying and encouraging to note from the correspondence and requests for the new food laws and amendments to the old, that there is a general spirit among all those interested in the sale of food products to co-operate with the State Board of Health and the State Food and Drug Laboratory in the proper enforcement of the law.

No food inspection decisions have been received since the publication of the last Bulletin, but the following list of Notices of Judgments is at hand from the Department at Washington, and interested parties wishing any separate notices should address the Director of the State Food and Drug Laboratory, University of California, Berkeley, Cal.

Nos. 2444, 2463—Adulteration and Misbranding of Tincture of Iodine.
No. 2445—Adulteration and Misbranding of Condensed Milk.
No. 2446—Misbranding of Salt.
No. 2447—Adulteration and Misbranding of Scuppernong Wine.
No. 2448—Adulteration and Misbranding of Orangeade.
No. 2449—Misbranding of Brandy.
No. 2450—Misbranding of Turpentine.
Nos. 2451, 2452, 2453—Adulteration of Feed Barley.
Nos. 2454, 2491—Adulteration of Oranges.
No. 2455—Misbranding of Coffee.
No. 2456—Adulteration of Tomato Paste.
Nos. 2458, 2460—Adulteration and Misbranding of Evaporated Milk.
No. 2459—Adulteration and Misbranding of Extract of Peppermint.
No. 2461—Adulteration and Misbranding of Catsup.
No. 2462—Adulteration and Misbranding of Tom and Jerry, A Cordial.
Nos. 2464, 2469, 2472, 2474, 2492, 2505—Adulteration and Misbranding of Vinegar.
No. 2465—Adulteration of "Egg for Custard."
No. 2466—Adulteration and Misbranding of Temperance Beer.
Nos. 2467, 2468, 2494—Adulteration and Misbranding of Vanilla Extract.
No. 2470—Adulteration of Concentrated Peach Flavor, Strawberry Oil, Pineapple Oil, and Banana Oil.
No. 2471—Alleged Misbranding of Sorghum.
No. 2473—Misbranding of Syrup.
No. 2475—Adulteration of Oil Coriander.
No. 2476—Adulteration and Misbranding of Oil of Cloves.
No. 2477—Alleged Adulteration and Misbranding of Grenadine Syrup.
Nos. 2478, 2479—Adulteration and Misbranding of "Egg-o-let."

Food and Drug Cases Ordered Referred to District Attorneys, August 2, 1913.

Article	Offense	Manufacturer or jobber	Accused dealer	Locality
Pork and beef sausage.	Adulterated. Contains sulphur dioxide, over 300 mg. per kilo.		Tracy Meat Market (C. D. Snow, prop.).	Tracy.
Chopped meat	Adulterated. Contains sulphur dioxide, over 1300 mg. per kilo.		Central Market (Rasmussen & Coit).	Hayward
Lemon extract	Mislabeled. Contains coal-tar color not declared on label.	L. M. Voorsanger Co.	Magnus & Lauer, Inc. (guarantors).	San Francisco.
Concentrated grape juice nectar.	Adulterated and mislabeled. Sample is not grape nectar; other materials substituted.	California Products Co. (guartors).	Dealer protected by guaranty.	Los Angeles.
Grape juice nectar	Adulterated and mislabeled. Sample is not grape nectar; other materials substituted.	California Products Co. (guartors).	Dealer protected by guaranty.	Los Angeles.
Gluten bread	Mislabeled and adulterated. Sample not gluten bread; below standard in nitrogen.		Electric Hygienic Food Co., Inc.	San Francisco.

REPORT OF THE BUREAU OF PUBLICATIONS AND HEALTH INFORMATION FOR AUGUST, 1913.

GUY P. JONES, Acting Director.

For the benefit of the physicians, the following list of quarantinable and reportable diseases is printed. It is important that every physician should report all cases of communicable diseases to his local health officer immediately, as that official is required to send such information to the State Board of Health at the end of every week. The law states specifically that the following diseases must be reported, and upon the observance of this law, to a large extent, depends the health of the State. This list is published upon a heavy card, for desk use, a copy of which will be sent to all physicians who desire it:

LIST OF DISEASES REPORTABLE BY LAW.

(Chap. 339, Acts of 1911.)

Anthrax.
Beri-beri.
Cerebro-Spinal Meningitis (Epidemic).
Chickenpox.
CHOLERA, ASIATIC.
Dengue.
DIPHTHERIA.
Dysentery.
Erysipelas.
German Measles.
Glanders.
Gonococcus infection.
Hookworm.
Leprosy.
Malaria.
Measles.
Mumps.
Pellagra.
PLAGUE.
Pneumonia.
POLIOMYELITIS.*
Rabies.
SCARLET FEVER.
SMALLPOX.
Syphilis.
Tetanus.
Trachoma.
Tuberculosis.
Typhoid fever.
TYPHUS FEVER.
Whooping-cough.
YELLOW FEVER.

Names of diseases in capitals are quarantinable. (Chap. 339, Acts of 1911.)

*Poliomyelitis is quarantinable by regulation of the State Board of Health.

LIST OF COUNTY AND CITY HEALTH OFFICERS.

Alameda County—
Dr. C. L. McKown------------Niles
Alameda------------Dr. A. Hieronymus
Albany------------Dr. F. R. Wollsey
Berkeley------------Dr. J. J. Benton
Emeryville------------Dr. A. T. Drennan
Hayward------------Dr. F. W. Browning
Livermore------------Dr. H. G. McGill
Oakland------------Dr. Edward N. Ewer
Piedmont-----Mr. George T. Burchaell
Pleasanton------------Dr. J. Hal Cope
San Leandro------------Mr. Budd Eber
Alpine County—
Mr. Fred S. Dunlap---Markleeville
Amador County—
Dr. E. E. Endicott--------Jackson
Jackson------------George Hambric
Sutter Creek-----Dr. J. H. McLaughlin
Butte County—
Dr. L. Q. Thompson-------Gridley
Biggs------------Dr. O. C. Hawkins
Chico------------Mr. G. H. Taylor
Gridley------------Dr. L. L. Thompson
Oroville------------Dr. W. F. Gates
Calaveras County—
Dr. Irwin B. March---San Andreas
Angels------------Dr. E. W. Weirich
Colusa County—
Dr. C. A. Poage------------Colusa
Colusa------------Dr. C. A. Poage
Contra Costa County—
Dr. W. S. George------------Antioch
Antioch------------Dr. W. S. George
Concord------------Dr. F. F. Neff
Hercules------------Dr. M. L. Fernandez
Martinez------------Dr. E. E. Brown
Pinole ------------ ————
Pittsburg------------Dr. F. S. Gregory
Richmond------------Dr. Chas. R. Blake
Del Norte County—
Dr. E. M. Fine------Crescent City
Crescent City------------Dr. E. M. Fine
El Dorado County—
Dr. L. M. Leisenring---Placerville
Placerville------------P. J. Hall
Fresno County—
Dr. G. L. Long------------Fresno
Clovis ------------ ————
Coalinga------------Dr. C. W. Hutchison
Fowler------------Dr. C. O. Mitchel
Fresno------------Dr. L. R. Willson
Kingsburg ------------ ————
Sanger------------Dr. Powers
Selma------------Dr. F. H. Williams
Glenn County—
Dr. J. A. Randolph-------Willows
Orland------------Dr. D. L. Martin
Willows------------Dr. J. T. Gardner
Humboldt County—
Dr. Carl T. Wallace-------Eureka
Arcata------------Dr. G. W. McKinnon
Blue Lake------------Dr. G. N. Wood
Eureka------------Dr. L. A. Wing
Ferndale------------Dr. C. A. Phelan
Fortuna------------Dr. Geo. S. Loveren
Imperial County—
Dr. Virgil McCoombs----El Centro
Brawley------------Mr. S. A. Armstrong
Calexico------------Dr. W. F. Smith
El Centro------------ ————
Imperial------------Dr. C. E. Standlee
Inyo County—
Dr. I. J. Woodin-----Independence
Bishop------------Dr. J. W Shute
Kern County—
Dr. G. M. Bumgarner--Bakersfield
Bakersfield ------------H. Farris
Kern ------------
Maricopa------------Dr. H. N. Taylor
Taft ------------Ed Eiland
Tehachapi------------Dr. N. J. Brown, Jr.
McKittrick------------G. M. Chittwood
Kings County—
Dr. C. L. Scott------------Hanford
Lemoore------------Dr. E. H. Byron
Hanford------------Dr. C. L. Scott
Lake County—
Dr. W. E. Upton-------Kelseyville
Kelseyville------------Dr. W. E. Upton
Lakeport------------W. F. Hazell
Lassen County—
Dr. R. W. T. Garner----Susanville
Susanville------------Dr. E. S. Drucks
Los Angeles County—
Dr. E. O. Sawyer------Los Angeles
Alhambra------------Dr. F. E. Corey
Arcadia------------C. M. Pedley
Avalon ------------ ————
Azusa------------Dr. John E. Hill
Burbank------------Dr. E. H. Thompson
Claremont------------Dr. F. W. Thomas
Compton------------J. W. Stone
Covina ------------ ————
Eagle Rock------------Dr. C. H. Phinney
El Monte------------ ————
Glendale------------Dr. R. E. Chase
Glendora------------Dr. C. H. Wood
Hermosa Beach------------B. F. Brown
Huntington Park----Dr. W. Thompson
Inglewood------------Dr. H. A. Putnam
Long Beach------------Dr. W. H. Newman
Lordsburg------------Dr. J. E. Hubble
Los Angeles------------Dr. L. M. Powers
Manhattan Beach------------ ————
Monrovia------------Dr. Abram Hostetter
Pasadena------------Dr. Stanley P. Black
Pomona------------Dr. Will H. Holmes
Redondo Beach-----Dr. D. R. Hancock
San Fernando----Dr. Kenneth W. Allen
San Marino------------ ————
Santa Monica------------Dr. W. H. Parker
Sawtelle------------Dr. A. B. Hromadka
Sierra Madre------Dr. R. H. Mackerras
South Pasadena-----Dr. C. A. Whiting
Tropico------------Dr. Wm. C. Mabry
Venice------------Dr. W. M. Kendall
Vernon------------Dr. O. R. Stafford
Watts------------ ————
Whittier------------Dr. W. H. Stokes
San Gabriel------------Dr. Ruth Purcell
Madera County—
Dr. Dow H. Ransom-------Madera
Madera------------Dr. Dow H. Ransom
Marin County—
Dr. J. H. Kuser------------Novato
Belvedere------------Dr. Florence Scott
Larkspur ------------ ————
Mill Valley------------Capt. M. Staples
Ross------------C. A. Meussdorfer
San Anselmo------------Dr. Chipman
San Rafael------------Dr. W. J. Stone
Sausalito------------Dr. A. H. Mays
Mariposa County—
Dr. T. W. Gallion--------Mariposa
Mendocino County—
Dr. Judson Liftchild--------Ukiah
Fort Bragg------------Dr. L. C. Gregory
Point Arena------------ ————
Potter Valley------------F. C. Mosier
Ukiah------------Dr. J. Liftchild
Willits------------Dr. W. L. Blodgett
Merced County—
Dr. J. H. Mudd------------Merced
Los Banos--------Dr. J. L. McClelland
Merced------------Dr. Brett Davis
Modoc County—
Dr. John Stile------------Alturas
Alturas------------Dr. John Stile
Mono County—
Dr. R. A. Cushman-----Bridgeport
Monterey County—
Dr. Garth Parker----------Salinas
King City------------Dr. D. Brumwell
Monterey------------R. L. Anderson
Pacific Grove------------Charles E. Tuck
Salinas------------F. A. Abbott

LIST OF COUNTY AND CITY HEALTH OFFICERS—Continued.

Napa County—
Dr. E. G. Smart .... Napa
Calistoga .... Dr. Henry Abrons
Napa .... J. D. Treadway
St. Helena .... W. A. Bingham
Nevada County—
Dr. Carl P. Jones .... Grass Valley
Grass Valley .... Paul E. Sears
Nevada City .... Hugh Murchie
Orange County—
Dr. John Wehrly .... Santa Ana
Anaheim .... Dr. J. L. Beebe
Fullerton .... Dr. F. J. Gobar
Huntington Beach .... Dr. G. A. Shank
Newport Beach .... J. A. Porter
Orange .... Dr. Arthur P. Dorman
Santa Ana .... Dr. J. I. Clark
Stanton .... ————
Placer County—
Dr. J. S. Wheeler .... Roseville
Auburn .... A. S. Waldo
Colfax .... Dr. R. A. Peers
Lincoln .... F. R. Elder
Rocklin .... Dr. H. D. Fletcher
Roseville .... Mabel B. Scott
Plumas County—
Dr. Wm. E. Styan .... Quincy
Riverside County—
Dr. Geo. E. Tucker .... Riverside
Beaumont .... ————
Corona .... Dr. W. S. Davis
Elsinore .... Dr. George D. Keeler
Hemet .... Dr. A. B. Eadie
Perris .... A. F. Hardy
Riverside .... Dr. Thomas R. Griffith
San Jacinto .... Thos. Lloyd
Sacramento County—
Dr. Hugh Beattie .... Elk Grove
Sacramento .... Dr. Wm. K. Lindsay
San Benito County—
Dr. J. M. O'Donnell .... Hollister
Hollister .... Dr. R. G. Curtis
San Juan .... W. E. Hodges
San Bernardino County—
Dr. Philip M. Savage .... San Bernardino
Chino .... Dr. John W. Callnon
Colton .... Dr. L. A. J. La Motte
Ontario .... Dr. C. S. Orr
Redlands .... Dr. Chase E. Ide
Rialto .... ————
San Bernardino .... Dr. J. W. Aldridge
Upland .... E. R. Bowman
San Diego County—
Dr. O. G. Wicherski .... San Diego
Chula Vista .... Dr. David C. Perry
Coronado .... Dr. R. Lorini
East San Diego ....
Escondido .... Dr. David Crise
La Mesa .... Dr. J. H. Parks
National City .... Dr. T. F. Johnson
Oceanside .... Dr. R. S. Reid
San Diego .... Dr. F. H. Mead
San Francisco (city and county)—
Dr. R. G. Brodrick .... San Francisco
San Joaquin County—
Dr. H. C. Peterson .... Stockton
Lodi .... Dr. F. W. Colman
Stockton .... Dr. Hudson Smythe
Tracy .... Mr. Wm. H. May
San Luis Obispo County—
Dr. H. M. Cox .... San Luis Obispo
Arroyo Grande .... ————
Paso Robles .... H. M. Bayne
San Luis Obispo .... W. F. Cook
San Mateo County—
Dr. W. G. Beattie .... Colma
Burlingame .... J. R. Murphy
Daly City .... ————
Hillsborough .... ————
Redwood City .... Dr. J. L. Ross
San Mateo .... Dr. I. R. Goodspeed
South San Francisco .... W. P. Acheson
Santa Barbara County—
Dr. J. C. Bainbridge .... Santa Barbara
Lompoc .... ————
Santa Barbara .... Dr. D. A. Conrad
Santa Maria .... Dr. O. P. Paulding
Santa Clara County—
Dr. Wm. Simpson .... San Jose
Alviso .... ————
Gilroy .... Dr. John A. Clark
Los Gatos .... Dr. C. K. Small
Mayfield .... Dr. F. M. Seibert
Morgan Hill .... Dr. D. W. Watt
Mountain View .... Dr. A. H. McFarlane
Palo Alto .... H. O. Jenkins
San Jose .... Dr. C. H. Hervey
Santa Clara .... Dr. J. F. Beattie
Santa Cruz County—
Dr. Wm. H. Keck .... Santa Cruz
Boulder Creek .... ————
Santa Cruz .... Dr. H. E. Piper
Watsonville .... Dr. F. H. Koepke
Shasta County—
Dr. F. Stabel .... Redding
Coram .... Geo. H. Thomas
Kennett .... Dr. J. P. Sandholt
Redding .... Dr. B. F. Saylor
Sierra County—
Dr. R. B. Davy .... Downieville
Loyalton .... Dr. J. McI. Morrison
Siskiyou County—
Dr. F. J. McNulty .... Yreka
Dorris .... Dr. A. A. Atkinson
Dunsmuir .... Dr. W. B. Mason
Etna .... Dr. W. H. Haines
Fort Jones .... Thos. Bransom
Montague .... ————
Sisson .... ————
Yreka .... W. D. Doggett
Solano County—
Dr. S. G. Bransford .... Suisun
Benicia .... Dr. W. L. McFarland
Dixon .... C. L. Apperson
Fairfield .... Dr. S. G. Bransford
Rio Vista .... Dr. A. J. McKinnon
Suisun .... Dr. S. G. Bransford
Vacaville .... Dr. W. C. Jenney
Vallejo .... Dr. E. A. Peterson
Sonoma County—
Dr. P. A. Meneray .... Santa Rosa
Cloverdale .... Dr. Cory C. Ledyard
Healdsburg .... Dr. J. W. Seawell
Petaluma .... Dr. R. B. Duncan
Santa Rosa .... Dr. Jackson Temple
Sebastopol .... Dr. J. J. Keating
Sonoma .... ————
Stanislaus County—
Dr. J. L. Hennemouth .... Modesto
Modesto .... Dr. E. V. Falk
Newman .... Dr. H. V. Armistead
Oakdale .... E. M. Endicott
Turlock .... Dr. F. B. Reardon
Sutter County—
Dr. E. V. Jacobs .... Meridian
Yuba City .... ————
Tehama County—
Dr. W. F. Maggard .... Corning
Corning .... Dr. O. F. Rudolph
Red Bluff .... Dr. F. J. Bailey
Tehama .... ————
Trinity County—
Dr. D. B. Fields .... Weaverville

LIST OF COUNTY AND CITY HEALTH OFFICERS—Continued.

Tulare County—
Dr. W. A. Preston---------Visalia
Dinuba----------Dr. Wm. Whittington
Exeter---------------Dr. A. D. McLean
Lindsay----------Dr. W. W. Tourtillot
Porterville----------Dr. O. C. Higgins
Tulare---------------Dr. J. B. Rosson
Visalia-------------Dr. W. A. Preston

Tuolumne County—
Dr. Wm. L. Hood----------Sonora
Sonora------------------W. H. Dennis

Ventura County—
Dr. A. A. Maulhardt-------Oxnard
Oxnard-----------Dr. Ralph W. Avery
Ventura------------------J. H. Hardey
Santa Paula----------Dr. B. E. Merrill

Yolo County—
Dr. W. J. Blevins-------Woodland
Winters---------------Dr. J. H. Haile
Woodland ---------------Peter Scott

Yuba County—
Dr. J. H. Barr----------Marysville
Marysville ---------------Wm. Meek
Wheatland--Dr. A. D. Ellsworth, acting

STANDING NOTICES.

The law makes it the duty of every physician and every citizen who knows of the existence of any case of a communicable disease, to report the same to his local health officer.

The law also requires every physician to report any case of a disease due to occupation. A fee of fifty cents is paid for each report.

Reports of births, deaths, and marriages are required of certain persons. Your local health officer, or registrar of vital statistics will explain all the details of the law.

The State Board of Health maintains depositaries for mailing tubes for sending cultures and specimens to its laboratories at Berkeley for examination. Every physician is invited to avail himself of the nearest depositary. A circular of details will be sent upon application.

The California State Board of Health Bulletin is on file in every public library, newspaper office, high school library, and in the offices of county and city health officials. Citizens desiring copies of this issue free of charge should apply to the Secretary, Sacramento.